

**A PETITION REQUESTING EMERGENCY  
LISTING OF 32 SPECIES UNDER THE  
ENDANGERED SPECIES ACT**

Submitted to the U.S. Secretary of Interior and the U.S. Fish and Wildlife Service on  
June 12, 2008

By:  
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June 12, 2008

Dirk Kempthorne, Secretary of Interior  
U.S. Department of the Interior  
1849 C Street, NW  
Washington, DC 20240  
Fax: 202-208-5048

Dale Hall, Director  
U.S. Fish and Wildlife Service  
U.S. Department of the Interior  
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**Re: Petition Requesting Emergency Listing of 32 Species Under the  
Endangered Species Act**

VIA FAX & CERTIFIED MAIL

Dear Secretary Kempthorne and Director Hall,

Pursuant to the Administrative Procedure Act (“APA”) and the Endangered Species Act (“ESA”), WildEarth Guardians hereby petitions you to list 32 species on an emergency basis under the ESA. The APA allows any citizen to petition an agency for the issuance of a rule or regulation within the agency’s power. 5 U.S.C. § 553(e). The ESA gives the Secretary the power to list species on an emergency basis. 16 U.S.C. § 1533(b)(7).

Based on information in the NatureServe database and other scientific sources, it is clear that there will be “significant risk to the well being” of these 32 species if they are not immediately listed under the ESA. See 16 U.S.C. § 1533(b)(3)(C)(iii). This significant risk stems from threats to these species from habitat destruction, inadequate protection, extremely limited ranges, and other factors. These species are found in only one location, and some are feared to be extinct. They all deserve prompt ESA listing so that their extinction can be avoided.

In the alternative, we request that you consider this petition for emergency listing as a supplement to our June and July 2007 petitions for standard ESA listing for a total of 674 species, of which the emergency petitioned species are a subset.

Sincerely,

Nicole J. Rosmarino, Ph.D.  
Wildlife Program Director  
WildEarth Guardians

## **I. Introduction**

In June and July 2007, WildEarth Guardians submitted two separate petitions requesting listing of 674 species under the (ESA).<sup>1</sup> In our petitions, we requested that the U.S. Fish and Wildlife Service (Service) determine whether emergency listing was required to avoid extinction of any of the 674 species.<sup>2</sup> While nearly a year has passed since we filed our petitions, the July 11, 2007 response from the Service's Southwest Region was silent on the issue of emergency listing. Regarding our second petition, the Mountain-Prairie Region informed us on August 24, 2007 that, "Based on our preliminary review of the 206 species described in your petition, we find no compelling evidence to support emergency listings at this time." In this petition, WildEarth Guardians provides compelling evidence that at least 32 species (found in either the Southwest or Mountain-Prairie Region) should be listed under the emergency listing provision of the ESA. These species are located at only one site or no known sites<sup>3</sup> and qualify for listing under one or more of the ESA's listing factors. Inaction by the Service for these species may result in their extinction.

## **II. Delayed protection for species on the brink**

We are requesting emergency listing for 32 species because further delay in providing these species with federal protection may result in their extinction, and the Service has already delayed their protection for too long. The standard for emergency listing a species under the Endangered Species Act (ESA) is that delay will cause "a significant risk to the well being" of a species. 16 USC § 1533(b)(3)(C)(iii). For these 32 species, this standard is met: all are at imminent risk of extinction.

All of the species for which WildEarth Guardians is requesting emergency protection were included in our petitions to list 475 species in the Southwestern region and 206 species in the Mountain-Prairie Region, submitted in June and July 2007, respectively. As in those petitions, this petition is based on NatureServe's ranking system and underlying database and analysis. We hereby incorporate our previous discussions of how NatureServe represents the best available science, as well as our 2007 petitions in their entirety. *See* Attachments 1-2. In addition, we provide information for the 32 emergency petitioned species from state wildlife agencies, the International Union for the Conservation of Nature (IUCN),<sup>4</sup> and other scientific and government sources.

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<sup>1</sup>See Attachment 1: Forest Guardians. 2007a. A Petition to List All Critically Imperiled or Imperiled Species in the Southwest United States as Threatened or Endangered Under the Endangered Species Act (475 species). Submitted to the U.S. Fish and Wildlife Service on June 18, 2007; and Attachment 2: Forest Guardians. 2007b. A Petition to List 206 Critically Imperiled or Imperiled Species in the Mountain-Prairie Region of the United States as Threatened or Endangered Under the Endangered Species Act (206 species). Submitted to the U.S. Fish and Wildlife Service on July 24, 2007. Note: while the two petitions sum to 681 species, we petitioned six species in both regions and one species was listed under NatureServe with two different scientific names. The number of discrete species petitioned was therefore 674.

<sup>2</sup>See Attachment 1 at p. 16 and Attachment 2 at p. 17.

<sup>3</sup>Of the 32 species, there are no known populations for 7 species, 24 are currently known from only one site, and 1 species is found at two sites on an area of approximately one acre.

<sup>4</sup>The IUCN is a global science-based conservation organization with more than 1,000 member groups. See [www.cms.iucn.org](http://www.cms.iucn.org). Stein et al. 2000 describes the red lists developed by the IUCN's Species Survival

The species we have chosen are all at the knife's edge of extinction. Given the location of these species on either no or only one known site on earth, a single event – whether from drought, flood, habitat destruction, pollution, exotic species, or other factors – could literally erase them from the world. Others are members of particularly at-risk groups of species, such as freshwater mussels, which are the most rapidly declining group of animals in North America and proportionately more endangered than any other group.<sup>5</sup> For example, included in this petition is the Salina mucket, a freshwater mussel native to the Rio Grande, which may be extinct.

In addition to suffering delays in protection as a result of FWS's overdue finding on WildEarth Guardians' 2007 petitions, half (16) of the species for which we are requesting emergency listing have previously been candidates for ESA protection. As we describe in our 2007 petitions, FWS needs to make up for lost ground from its history of removing species from the candidate list without listing them. For instance, in 1996, FWS eliminated over 2,000 species from the candidate list.<sup>6</sup> In Table 1, we describe the history of the 32 emergency-petitioned species under the ESA, 15 of which were removed from the candidate list in 1996.

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Commission as more conservative than NatureServe's ranking system. For instance, the IUCN places emphasis on projected threats and is more likely than NatureServe to place a taxon in the "data deficient" category in the absence of such data. Stein, Bruce A., Lynn S. Kutner, and Jonathan S. Adams. 2000. *Precious Heritage: the Status of Biodiversity in the United States*. Oxford University Press at p. 112.

<sup>5</sup> Howells, Robert G. 2004. Last stand for mussels of the Rio Bravo? *Texas Parks and Wildlife's Eye on Nature*; and Stein et al. 2000 at p. 102 (Figure 4.2).

<sup>6</sup>See Attachment 1 at p. 10.

**Table 1. Prior History of 32 Emergency Petitioned Species under the Endangered Species Act.** Sources: FWS Annual Candidate Notices of Review at 54 FR 554 (1989); 55 FR 6184 (plants only: 1990); 56 FR 58804 (animals only: 1991); 58 FR 51144 (plants only: 1993); 59 FR 58982 (animals only: 1994); 61 FR 7596 (1996); 64 FR 57533 (1999); 66 FR 1295 (January 2001); 66 FR 54807 (October 2001); 67 FR 40657 (2002); 69 FR 24876 (2004); 70 FR 24870 (2005); 71 FR 53756 (2006); 72 FR 69034 (2007).<sup>7</sup>

Species Name	Prior ESA history
<b>Invertebrates</b>	
<i>Isoperla jewetti</i> (a stonefly)	No history of candidacy under ESA
<i>Fallceon eatoni</i> (a mayfly)	No history of candidacy under ESA
<i>Hygrotus diversipes</i> : “narrow-foot hygrotus diving beetle”	Category-2 candidate species in 1989, 1991, 1994; removed from candidate list in 1996
<i>Microcyloopus browni</i> : “Brown's microcyloopus riffle beetle”	Category-2 candidate species in 1989, 1991, 1994; removed from candidate list in 1996
<i>Optioservus phaeus</i> : “Scott optioservus riffle beetle”	Category-2 candidate species in 1989, 1991, 1994; removed from candidate list in 1996 (recommended for ESA listing by scientists in 1991)
<i>Agapema galbina</i> : “Tamaulipan agapema”	No history of candidacy under ESA
<i>Litodonta sp. 1 nr. alpina</i> (notodontid moth)	No history of candidacy under ESA
<i>Sonorella todseni</i> : “Dona Ana talussnail”	Category-2 candidate species in 1994; removed from candidate list in 1996
<i>Discus brunsoni</i> : “lake disc”	No history of candidacy under ESA (recommended by scientists for ESA listing in 1995)
<i>Oreohelix amariradix</i> : “Bitterroot mountainsnail”	No history of candidacy under ESA

<sup>7</sup>Smithsonian Institution and World Wildlife Fund (Edward S. Ayensu and Robert A. DeFilipps). 1978. Endangered and Threatened Plants of the United States. Smithsonian Institution Press.

<i>Oreohelix pilsbryi</i> : “Mineral Creek mountainsnail”	Category-2 candidate species in 1991, 1994; removed from candidate list in 1996
<i>Oreohelix sp. 4</i> : “Drummond mountainsnail”	No history of candidacy under ESA
<i>Oreohelix sp. 6</i> : “Kintla Lake mountainsnail”	No history of candidacy under ESA
<i>Oreohelix parawanensis</i> : “Brian Head mountainsnail”	Category-2 candidate species in 1994; removed from candidate list in 1996
<i>Vertigo binneyana</i> : “cylindrical vertigo”	No history of candidacy under ESA
<i>Sonorella eremita</i> : “San Xavier talussnail”	Category-2 candidate species in 1989; Category-1 species in 1991; candidate species in 1994 (proposed endangered); proposed endangered in 1996; listing proposal withdrawn in 1998
<i>Potamilus metnecktayi</i> : “Salina mucket”	Category-2 candidate species in 1989, 1991, 1994; removed from candidate list in 1996
<i>Procambarus nueces</i> : “Nueces crayfish”	No history of candidacy under ESA
<i>Pyrgulopsis bedfordensis</i> (a freshwater snail)	No history of candidacy under ESA
<i>Pyrgulopsis davisii</i> : “Limpia Creek springsnail”	Category-2 candidate in 1989, 1991, 1994; removed from candidate list in 1996
<i>Pyrgulopsis metcalfi</i> : “Naegele springsnail”	Category-2 candidate in 1989, 1991, 1994; removed from candidate list in 1996
<i>Pyrgulopsis pecosensis</i> : “Pecos springsnail”	Category-1 candidate in 1989, 1991, 1994; removed from candidate list in 1996: FWS cited the rationale that this taxon has “proven to be more abundant or widespread than previously believed or those that are not subject to any identifiable threat.”

<b>Plants</b>	
<b><i>Castilleja ornata</i>: “glowing Indian-paintbrush”</b>	No history of candidacy under ESA
<b><i>Glossopetalon texense</i>: “Texas grease bush”</b>	No history of candidacy under ESA
<b><i>Proboscidea spicata</i>: “many-flowered unicorn-plant”</b>	Category-2 candidate in 1990, 1993; removed from candidate list in 1996
<b><i>Pseudocappia watsonii</i>: “Watson’s false-clappia”</b>	No history of candidacy under ESA
<b><i>Astragalus avonensis</i> (a milkvetch)</b>	No history of candidacy under ESA
<b><i>Donrichardsia macroneuron</i> (a moss)</b>	No history of candidacy under ESA
<b><i>Paronychia maccartii</i>: “Mccart’s whitlow-wort”</b>	Smithsonian 1975 list of endangered plant species; Category-2 candidate in 1990, 1993; removed from candidate list in 1996
<b><i>Eriogonum soledium</i>: “Frisco buckwheat”</b>	Category-2 candidate in 1990, 1993; removed from candidate list in 1996
<b><i>Perityle warnockii</i>: “river rockdaisy”</b>	Smithsonian 1975 list of threatened species; Category-2 candidate in 1990, 1993; removed from candidate list in 1996
<b><i>Quercus boyntonii</i>: “Boynton’s sand post oak”</b>	Category-2 candidate in 1990, 1993; removed from candidate list in 1996

### III. The 32 petitioned species meet factors for ESA listing

Any further delay in listing the petitioned species exposes them to multiple threats thrusting these species closer to extinction. Each qualifies under at least one of the five listing factors, any one of which justifies listing (16 U.S.C. § 1533(a)(1)):

- A. The present or threatened destruction, modification, or curtailment of habitat or range;
- B. Overutilization for commercial, recreational, scientific, or educational purposes;
- C. Disease or predation;
- D. The inadequacy of existing regulatory mechanisms; and
- E. Other natural or manmade factors affecting its continued existence.

Because the emergency petitioned species occur in only one current known location (or no known locations), they are vulnerable to systematic pressures or random/stochastic events causing total extirpation or extinction. We consider this threat under ESA listing Factor E. For the animal species, we consider whether the species is included under state comprehensive wildlife conservation plans.

#### A. Invertebrates in need of emergency listing

1. *Isoperla jewetti* is a stonefly that historically occurred in aquatic habitat in Colorado, New Mexico, and Texas. It occurred at Radium Springs, Dona Ana County, NM; El Paso County, TX; and Huerfano County, CO. The El Paso site has been completely destroyed by agriculture. As of 2005, no occurrences or individuals were known. It was last collected in 1980 and may be extinct. The New Mexico Comprehensive Wildlife Conservation Strategy ranks this stonefly as a species of greatest conservation need and describes it as a declining, vulnerable endemic.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 3: NatureServe individual account for *Isoperla jewetti* and Attachment 4: New Mexico Comprehensive Wildlife Conservation Strategy at p. 548.

2. *Fallceon eatoni* is a mayfly that historically occurred in Arizona and Mexico. This mayfly had not been seen since 1934 (in northern Sonora) when a single specimen was collected in 2005 in the Salt River Canyon in Gila County, Arizona. Given its known occurrence at only one site, it is vulnerable to total extirpation. This species is only found in Arizona. The Arizona Comprehensive Wildlife Conservation Strategy does not include insects.<sup>8</sup>

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<sup>8</sup>The only invertebrates included in Arizona's Strategy are mollusks and crustaceans. See Attachment 5: Arizona Comprehensive Wildlife Conservation Strategy at p. 7 (Table B).



This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 6: NatureServe individual account for *Fallceon eatoni* and Attachment 7: McCafferty 2006.

3. The **narrow-foot hygrotus diving beetle (*Hygrotus diversipes*)** is a beetle known to occur at a single site in the wild: a creek in Natrona County, Wyoming. Its global short-term trend is "very rapidly to rapidly declining," which represents a decline of 30-70%. Given its restriction to one site, it is vulnerable to total extirpation. This species is found only in Wyoming. The Wyoming Comprehensive Wildlife Conservation Strategy does not include insects.<sup>9</sup>

This species was included in WildEarth Guardians' Petition to List 206 Species in the Mountain Prairie Region. See Attachment 8: NatureServe individual account for *Hygrotus diversipes*.

4. The **Brown's microcylloepus riffle beetle (*Microcylloepus browni*)** is a beetle which, as of 1995, was known from only 1 occurrence, located on less than 1 mile of stream length with fewer than 1,000 individuals estimated. The species occupies a total of 35 square meters. Its sole occurrence is located downstream of Bridger Creek, Montana. Its habitat is surface flowing warm water springs. While the U.S. Fish and Wildlife Service's Bozeman Fish Technology Center protects the single occurrence, it is threatened by human development upstream. Given its restriction to one site, it is vulnerable to total extirpation. This species is found only in Montana. With the exception of aquatic mussels and crayfish, the Montana Comprehensive Wildlife Comprehensive Strategy does not include invertebrates.<sup>10</sup>

This species was included in WildEarth Guardians' Petition to List 206 Species in the Mountain Prairie Region. See Attachment 9: NatureServe individual account for *Microcylloepus browni* and Attachment 10: Montana Field Guide entry for *M. browni*.

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<sup>9</sup>The Wyoming Strategy states at pp. 9-10: "The CWCS deals only with species that are legally considered wildlife in Wyoming. Wyoming Statute 23-1-101 (a) (xiii) defines "Wildlife" as all wild mammals, birds, fish, amphibians, reptiles, crustaceans and mollusks, and wild bison designated by the Wyoming Game and Fish Commission and the Wyoming Livestock Board within Wyoming. Currently, there is no statutory authority in Wyoming for insect conservation. As such, insects are not considered in the CWCS. Information on the abundance and distribution of insects in Wyoming is extremely limited, and primarily confined to insect control, not insect conservation. Those updating Wyoming's CWCS in 2010 may be encouraged by the National Acceptance Advisory Team (NAAT) to consider insects within the next iteration. However, the WGF has no statutory authority or responsibility to manage insects in Wyoming." The Strategy is online at: <http://gf.state.wy.us/wildlife/CompConvStrategy/index.asp> and is hereby incorporated by reference.

<sup>10</sup>The Montana Strategy states: "With nearly 1,000 species of aquatic invertebrates in the state, and at least twice that number of terrestrial invertebrates, it is impossible at this time to develop a Strategy to comprehensively address invertebrate conservation in Montana. However, it was decided to include aquatic mussels and crayfish." See Attachment 11: Montana Comprehensive Wildlife Conservation Strategy at p. 188.

5. The **Scott optioservus riffle beetle** (*Optioservus phaeus*) is a beetle that, as of 1991, was known to occur at only 1 site, located on less than 1 acre in the pool and short run emanating from Big Springs in Scott State Park, Scott County, Kansas. It is threatened by aquifer dewatering, contamination, and habitat destruction. NatureServe recommends proceeding with federal listing. Given its restriction to one site, it is vulnerable to total extirpation. For instance, a single incident of chemical contamination or reduced spring flow could cause extinction. This species is in the highest priority (Tier I) category of species in Kansas' Comprehensive Wildlife Conservation Plan.

This species was included in WildEarth Guardians' Petition to List 206 Species in the Mountain Prairie Region. See Attachment 12: NatureServe individual account for *Optioservus phaeus* and Attachment 13: Kansas Comprehensive Wildlife Conservation Plan at Appendix 1. While it is located within a state park in Scott County, the park cannot address some of the threats the species faces, such as aquifer depletion. See Attachment 14: State Recovery Plan for *O. phaeus*. This species was originally recommended for federal listing in 1991. Such listing would reduce threats it faces. *Id.*

6. The **Tamaulipan agapema** (*Agapema galbina*) is a giant silkworm moth which historically occurred in Texas and Tamaulipas, Mexico. It occurred in the Lower Rio Grande Valley but has been extirpated from Texas due to agricultural crops such as cotton. Its levels in Mexico are unknown but it continues to lose its Tamaulipan thornscrub habitat there to crop agriculture. It is considered to be declining by 10-30%. The Texas Comprehensive Wildlife Conservation Strategy identifies this species as a species of concern and lists the following threats: development; human disturbance (land or drainage alteration, land-use changes); and lack of protection.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 15: NatureServe individual account for *Agapema galbina* and Attachment 16: Texas Comprehensive Wildlife Conservation Strategy excerpts at pp. 776, 778-782.

7. ***Litodonta sp. 1 nr. alpina*** is a notodontid moth that occurs in upper Pinery Canyon on the west slope of the Chiricahua Mountains on the Coronado National Forest in Arizona. Its habitat is forest with oak, juniper, pine, and Douglas fir. Only a single occurrence is known, which could be extirpated by intense fire. Given its restriction to one site, it is vulnerable to total extirpation. This species is only found in Arizona. As noted previously, the Arizona Comprehensive Wildlife Conservation Strategy does not include insects.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 17a: NatureServe individual account for *Litodonta sp. 1 nr. alpina* and Attachment 17b: Arizona Game and Fish Department account for *Litodonta sp. 1 nr. alpina*.

8. The **Dona Ana talussnail** (*Sonorella todseni*) is a terrestrial snail found only in the Dona Ana Mountains in New Mexico on talus with oaks and shrubs. As of 2005, it was known to exist in only two small sites, and its total population occupies perhaps only 1 acre. Its global short-term trend was “declining,” which represents a decline of 10-30%. Its IUCN status is Lower Risk/Near Threatened. It is threatened by climate warming, soil disturbance, vehicle traffic, and potentially mining. The New Mexico Comprehensive Wildlife Conservation Strategy ranks the species as a vulnerable endemic and recognizes the threats of fire, mining, and deforestation. While the U.S. Bureau of Land Management designated an Area of Critical Environmental Concern for this mollusk, this designation does not address the threat of climate warming or drought. The New Mexico BISON-M<sup>11</sup> account for this species notes that habitat protection is a major factor in the conservation of this species and cites threats from mining and other substrate-disturbing activities. This species is the most geographically range-restricted of any of the *Sonorella* species in New Mexico. The New Mexico Department of Game and Fish cites additional detailed threats and states that habitat protection is “paramount” for the conservation of this species. New Mexico Governor Richardson’s Drought Task Force considers drought to be a threat to this species, causing the diminishment of suitable habitat. The U.S. Department of Defense recognizes climate change, fire, and destabilization of talus slopes as threats to this species and recommends habitat protection. Given its restriction to two small sites, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians’ Petition to List 475 Species in the Southwestern Region. See Attachment 18: NatureServe individual account for *Sonorella todseni*, Attachment 19: IUCN individual account for *S. todseni*, Attachment 4: New Mexico Comprehensive Wildlife Conservation Strategy at pp. 543 and 603, Attachment 20: BISON-M account for *S. todseni*, Attachment 21: New Mexico Biennial Review 2006, Attachment 22: New Mexico Drought Task Force Report 2005, and Attachment 23: U.S. Department of Defense Species at Risk Report for New Mexico and Arizona 2006.

9. The **lake disc or Mission Range disc** (*Discus brunsoni*) is a terrestrial snail found only on the north shore of McDonald Lake, in the Mission Mountains on the Flathead Indian Reservation in Montana. Its habitat is bare or lichen-covered rocks limestone on south-facing talus slopes, with large amounts of calcium present. Threats include fire, talus destabilization, overcollecting, and weed control. As of 2006, it was known from a single site, which contained less than one thousand individuals. It has not been seen in recent years despite searches. Its last known collection was in 1997. It is considered “severely declining to declining,” which represents a decline of 10%-over 70%. Given its restriction to

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<sup>11</sup> “BISON-M” is the “Biota Information System of New Mexico,” which was created and is administered by the New Mexico Department of Game and Fish and other contributing agencies. It contains biological accounts for all vertebrate and many invertebrate species in New Mexico and Arizona. See <http://www.bison-m.org/>.

one site, it is vulnerable to total extirpation. This species occurs only in Montana. As discussed previously, with the exception of aquatic mussels and crayfish, the Montana Comprehensive Wildlife Comprehensive Strategy does not include invertebrates.

This species was included in WildEarth Guardians' Petition to List 206 Species in the Mountain Prairie Region. See Attachment 24: NatureServe individual account for *Discus brunsoni*. Hendricks reports that *D. brunsoni* may be more of a habitat specialist than previously thought. See Attachment 25: Hendricks, Paul. Undated. Rediscovery of *Discus brunsoni* (Berry, 1955) and *Oreohelix alpina* (Elrod, 1901) in the Mission Mountains, Montana, With Comments on *Oreohelix elrodi* (Pilsbry, 1900). Montana Natural Heritage Program report. This species was recommended for federal ESA listing in 1995. See Attachment 26: Hendricks, Paul. 2003. Terrestrial Mollusks of Special Concern in Montana. Prepared for U.S. Forest Service, dated June 2003. Additional survey information for this species is found in Attachment 27: Hendricks, Paul, and Bryce A. Maxwell. 2005. USFS Northern Region 2005 Land Mollusk Inventory: a Progress Report. Montana Natural Heritage program, dated December 2005.

10. The **Bitterroot mountainsnail (*Oreohelix amariradix*)** is a terrestrial snail that exists on small rock talus slides in open and dry ponderosa pine forest in the Lolo Creek drainage near Fort Fizzle, Missoula County, Montana. It inhabits only two locations, 1 of which may be extirpated. It is declining by 10-30% and numbers fewer than 1,000 individuals. Threats include highway improvement, herbicides, logging, grazing, development, and fire. NatureServe recommends that all occurrences be protected. However, none of the sites for this species have special protections. Given its restriction to 1-2 sites, it is vulnerable to total extirpation. This species occurs only in Montana. As discussed previously, with the exception of aquatic mussels and crayfish, the Montana Comprehensive Wildlife Comprehensive Strategy does not include invertebrates.

This species was included in WildEarth Guardians' Petition to List 206 Species in the Mountain Prairie Region. See Attachment 28: NatureServe individual account for *Oreohelix amariradix*, Attachment 29: Montana Field Guide entry for *O. amariradix*; and Attachment 26: Hendricks 2003 USFS report. Additional survey information for this species is found in Attachment 27: Hendricks and Maxwell 2005.

11. The **Mineral Creek mountainsnail (*Oreohelix pilsbryi*)** is a terrestrial snail that, as of 2005, was known to exist at only 1 site on less than 1 acre. It is considered "declining," which represents declines of 10-30%. The one remaining population, located in the Black Range within Sierra County, New Mexico in the Gila National Forest, is threatened by global warming, mining, logging, fire, grazing, and rockslides. The New Mexico Comprehensive Wildlife Conservation Strategy ranks this species as a vulnerable endemic and recognizes threats from fire, mining, and deforestation. NatureServe recommends full habitat protection for the

species. The New Mexico Department of Game and Fish recommends fencing occupied habitat to protect it from surface disturbance. The U.S. Department of Defense suggests avoiding or minimizing impacts to any populations of this species. Given its restriction to one site, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 30: NatureServe individual account for *Oreohelix pilsbryi*, Attachment 4: New Mexico Comprehensive Wildlife Conservation Strategy at pp. 542 and 601, Attachment 21: New Mexico Biennial Review 2006, and Attachment 23: U.S. Department of Defense Species at Risk Report for New Mexico and Arizona 2006.

12. The **Drummond mountainsnail** (*Oreohelix sp. 4*) is a terrestrial snail, which, as of 2002, was known to exist at a site less than 6 feet long, near Nimrod, Montana (although it may also exist on the Lolo National Forest). It is ranked as "declining," which represents declines of 10-30%. Its habitat is rock/talus/scree at base of slopes and outcrops. It prefers moister sites. Within its extremely limited habitat, it faces multiple threats of road building and maintenance, roadside spraying, grazing, and logging. NatureServe states that its "habitat appears to be in areas particularly likely to be utilized for roads or for human habitation." Given its restriction to one site, it is vulnerable to total extirpation. This species occurs only in Montana. As discussed previously, with the exception of aquatic mussels and crayfish, the Montana Comprehensive Wildlife Comprehensive Strategy does not include invertebrates.

This species was included in WildEarth Guardians' Petition to List 206 Species in the Mountain Prairie Region. See Attachment 31: NatureServe individual account for *Oreohelix sp. 4*.

13. The **Kintla Lake mountainsnail** (*Oreohelix sp. 6*) occurs in Granite and Flathead Counties in Montana, including in Glacier National Park. As of 2002, there were two known occurrences. However, the search to find one of these occurrences was unsuccessful, and the other site was not surveyed. The species is threatened by grazing, logging, mining, and roads. Given its restriction to 1-2 sites, it is vulnerable to total extirpation. This species occurs only in Montana. As discussed previously, with the exception of aquatic mussels and crayfish, the Montana Comprehensive Wildlife Comprehensive Strategy does not include invertebrates.

This species was included in WildEarth Guardians' Petition to List 206 Species in the Mountain Prairie Region. See Attachment 32: NatureServe individual account for *Oreohelix sp. 6*.

14. The **Brian Head mountainsnail** (*Oreohelix parawanensis*) is a terrestrial snail that occurs at one site on Brian Head Peak on public land close to Cedar City, Iron County. Its habitat is alpine, bare rock, and talus. Its sole site includes 11 hectares, only 2.3 ha of which is occupied. There are less than 1,000 individuals.

The site is threatened by a ski resort, grazing, and hiking. The Utah Division of Wildlife Resources reports that the species is located in the immediate vicinity of a ski resort. Given its restriction to one site, it is susceptible to total extirpation. The Utah Comprehensive Wildlife Conservation Strategy ranks this species as a “Tier II” species because it has no federal status or conservation agreements. It recognizes threats from livestock overgrazing and considers enclosing suitable habitat as a high priority.

This species was included in WildEarth Guardians’ Petition to List 206 Species in the Mountain Prairie Region. See Attachment 33: NatureServe individual account for *Oreohelix parawanensis*, Attachment 34: Utah Division of Wildlife Resources entry for *O. parawanensis*, and Attachment 35: Utah Comprehensive Wildlife Conservation Strategy at pp. 5-5 and 6-67.

15. The **cylindrical vertigo** (*Vertigo binneyana*) is a terrestrial snail that historically occurred in Iowa, Kansas, Montana, and New Mexico in the U.S., and in Alberta, British Columbia, Manitoba, and Ontario, Canada. While possibly extant in Alberta, it could be extinct, as no populations were known as of 2004. New Mexico Governor Richardson’s Drought Task Force considers drought to be a threat to another member of this genus (*V. ovata*), causing the diminishment of suitable habitat. *Vertigo binneyana* is not included in the Comprehensive Wildlife Conservation Strategies for any of the four U.S. states in its historic range.

This species was included in WildEarth Guardians’ Petition to List 475 Species in the Southwestern Region. See Attachment 36: NatureServe individual account for *Vertigo binneyana* and Attachment 22: New Mexico Drought Task Force Report 2005.

16. The **San Xavier talussnail** (*Sonorella eremita*) is a terrestrial snail that is limited to an area of 15 x 30 meters on one rockslide in Mineral Hills within southern Pima County, Arizona. At that site, owned by El Paso Natural Gas, it faces numerous threats including dessication, construction, mining, vandalism, collecting, dirt-bike use, and vulnerability to extirpation from a catastrophic event. It is listed as Near Threatened by the IUCN. Due to a September 1998 conservation agreement, a proposal to list this species was withdrawn by FWS in October 1998. The withdrawal was inappropriate for many reasons: the conservation agreement was voluntary; its funding was not assured; and it was subject to termination by any of the parties with a 30-day notice. Its original term was ten years, but it was renewed for another ten years in May 2008. No changes were made to the original agreement. This species is listed as a priority in Arizona’s Comprehensive Wildlife Conservation Strategy.

This species was included in WildEarth Guardians’ Petition to List 475 Species in the Southwestern Region. See Attachment 37: NatureServe individual account for *Sonorella eremita*, Attachment 38: Arizona Game and Fish entry for *S. eremita*, Attachment 39: 1998 FWS withdrawal of listing proposal for San Xavier

talussnail, Attachment 40: 1998 conservation agreement for San Xavier talussnail (including renewal Appendix), Attachment 5: Arizona Comprehensive Wildlife Conservation Strategy in Companion Document B at p. 44.

17. The **Salina mucket** (*Potamilus metnecktayi*), previously called *Disconaias salinasensis*, is a freshwater mussel that historically occurred in the Rio Grande and its tributaries in Texas, New Mexico, and Mexico. Its habitat is moderate to small streams and rivers with flowing waters over sand and gravel. Threats include habitat degradation and drought. Three living specimens observed in 2003 may be the only individuals of this species ever seen alive. The species was last detected in 1972, near Del Rio, Texas. It is likely extirpated from New Mexico and Mexico and is described as “severely to vary rapidly declining,” with declines of 50%-over 70%. The IUCN lists this species as Endangered. In a 2003 Texas Parks and Wildlife Department presentation on the Rio Grande, the Salina mucket was described as “may be extinct.” According to scientist Robert Howells of that agency, the future of freshwater mussels in the Rio Grande “seems very dim indeed.” The Texas Comprehensive Wildlife Conservation Strategy lists this species as a high priority for conservation and cites many threats: invasive species, lack of authority to manipulate water levels to improve habitat, species or populations are considered destructive or pests, hurricanes, flood events, pollution, fragmentation due to tax policies, predators, lack of protection, naturally limited range, and vehicle traffic.

This species was included in WildEarth Guardians’ Petition to List 475 Species in the Southwestern Region. See Attachment 41: NatureServe individual account for *Potamilus metnecktayi* (= *Disconaias salinasensis*), Attachment 42: Texas Parks and Wildlife Department Rio Grande Presentation 2003, Attachment 43: Howells, Robert G. 2004. Last stand for mussels of the Rio Bravo? Texas Parks and Wildlife’s *Eye on Nature*, Attachment 16: Texas Comprehensive Wildlife Conservation Strategy at p. 758, and Attachment 44: IUCN individual account for *D. salinasensis* (= *Potamilus metnecktayi*).

18. The **Nueces crayfish** (*Procambarus nueces*) occurs in spring/creek habitat on the Nueces River in Atascosa County, Texas. As of 1996, there was one occurrence. The Texas Parks and Wildlife Department describes its only location as a small sluggish stream tributary to the Nueces River. Surveys have not found additional populations. The single site where it occurs is not protected. The species is classified by the IUCN as critically endangered. NatureServe recommends protecting the single existing population. The American Fisheries Society classifies this species as endangered and criticizes the gap between U.S. crayfish species recognized as biologically imperiled and the number of species listed under the federal ESA. Some 48% of crayfish species are at-risk. Given the restriction of the Nueces crayfish to one site, it is vulnerable to total extirpation. The Texas Comprehensive Wildlife Conservation Strategy ranks this species as a high priority and cites threats of development, erosion, fragmentation, human

disturbance, hurricanes, flood events, pollution, fragmentation due to tax policies, and lack of protection.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 45: NatureServe individual account for *Procambarus nueces*, Attachment 46: IUCN individual account for *P. nueces*, Attachment 47: Texas Parks and Wildlife webpage for *P. nueces*, Attachment 48: American Fisheries Society 2007 at pp. 373-374, 377, 382, and Attachment 16: Texas Comprehensive Wildlife Conservation Strategy at pp. 331, 756.

19. ***Pyrgulopsis bedfordensis*** is a freshwater snail found in one thermal spring on private property near Bedford, Montana. No other occurrences have been found despite 18 years of surveys. NatureServe recommends protecting its sole remaining occurrence. This species is found only in Montana. As discussed previously, with the exception of aquatic mussels and crayfish, the Montana Comprehensive Wildlife Comprehensive Strategy does not include invertebrates. Given its restriction to one site, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians' Petition to List 206 Species in the Mountain Prairie Region. See Attachment 49: NatureServe individual account for *Pyrgulopsis bedfordensis* and Attachment 50: Montana Field Guide for *P. bedfordensis*.

20. The **Limpia Creek springsnail (*Pyrgulopsis davisii*)** is a freshwater snail that occurs in Limpia Creek in Jeff Davis County, Texas. As of 1999, only one occurrence was known. The sole occurrence is unprotected and is threatened by livestock. Given its restriction to one site, it is vulnerable to total extirpation. Texas Comprehensive Wildlife Conservation Strategy ranks this species as a medium priority and cites threats of development, erosion, fragmentation, human disturbance, hurricanes, flood events, pollution, fragmentation due to tax policies, and lack of protection.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 51: NatureServe individual account for *Pyrgulopsis davisii* and Attachment 16: Texas Comprehensive Wildlife Conservation Strategy at p. 759.

21. The **Naegele springsnail (*Pyrgulopsis metcalfi*)** is a freshwater snail which historically occurred in the outflow of springs in fine mud and watercress in New Mexico and Texas. As of 1999, it was known from one site in Naegele Springs, within the Rio Grande Basin, Presidio County, TX. It has been extirpated from New Mexico. The sole remaining site is not protected and is threatened by livestock. The Naegele springsnail is ranked Vulnerable by the IUCN, which cites ongoing habitat loss and degradation as a threat. Given its restriction to one site, it is vulnerable to total extirpation. The Texas Comprehensive Wildlife Conservation Strategy ranks this species as a medium priority and cites threats



from development, erosion, fragmentation, human disturbance, hurricanes, flood events, pollution, fragmentation due to tax policies, and lack of protection.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 52: NatureServe individual account for *Pyrgulopsis metcalfi*, Attachment 53: IUCN individual account for *P. metcalfi*, and Attachment 16: Texas Comprehensive Wildlife Conservation Strategy at p. 759.

22. The **Pecos springsnail (*Pyrgulopsis pecosensis*)** is a freshwater snail which occurs in Blue Spring, a tributary of the Black River in Eddy County, New Mexico. It has been extirpated from the adjacent Castle Spring. As of 1999, only one occurrence for this species existed, located on three miles of stream. The sole occurrence is on private land that is being sold and faces threats from livestock, drought, and dewatering. The New Mexico Department of Game and Fish recognizes many threats to the species, including groundwater depletion and contamination (related to both agriculture and oil and gas activities), drought, and exotic species. The agency writes in its 2006 biennial review of state-listed species:

The Pecos springsnail was listed as state threatened in 1983. Acquisition of Blue Spring surface water rights (72-5-28 NMSA 1995) and the '...lack of oil and gas reserves in the area...' prompted reclassification of *P. pecosensis* from a federal candidate for listing under the ESA to a species of concern (Federal Register 1996). Contrary to conclusions possibly drawn from this reclassification, the Black River Valley has experienced repeated problems of ground water depletion and contamination.

See Attachment 21: New Mexico Department of Game and Fish 2006 Biennial Review at pp. 25-27. In its BISON-M database, NMDGF describes protection of Blue and Castle Springs as essential for the conservation of this species, including ensuring adequate flows and a "vegetated, unpolluted, and stable environment." See Attachment 54: BISON-M individual account for *Pyrgulopsis pecosensis*. The U.S. Department of Defense reports similar threats to the species as the New Mexico Department of Game and Fish and recommends protecting it from anthropogenic disturbance. Given its restriction to one site, it is vulnerable to total extirpation. New Mexico's Drought Task Force considers drought to be a threat to this species, causing the diminishment of suitable habitat. The New Mexico Comprehensive Wildlife Conservation Strategy ranks this species as a species of greatest conservation need and describes it as a declining, vulnerable endemic.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 55: NatureServe individual account for *P. pecosensis*, Attachment 4: New Mexico Comprehensive Wildlife Conservation Strategy at p. 542, Attachment 22: New Mexico Drought Task Force Report 2005,

and Attachment 23: U.S. Department of Defense Species at Risk Report for New Mexico and Arizona 2006.

B. Plants in need of emergency listing

1. **Glowing Indian-paintbrush (*Castilleja ornata*)** is a member of the figwort family that historically occurred in Hidalgo County, New Mexico; and western Chihuahua and west-central Durango, Mexico. Its habitat is seasonally wet areas in arid, level grasslands. It prefers less disturbed areas. It is threatened by livestock grazing and crop agriculture. As of 2002, there was a single known location in New Mexico. It is apparently extirpated from Mexico. Searches of historical sites in Chihuahua failed to detect any extant populations and found that the species' habitat had been converted to agriculture. Given its restriction to one site, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 56: NatureServe individual account for *Castilleja ornata* and Attachment 57: New Mexico Rare Plant account for *C. ornata*.

2. The **Texas grease bush (*Glossopetalon texense*)** historically occurred in Texas along the Nueces River near Montell in Uvalde County and along the Devils River in Val Verde County. Ungulate browsing may harm this plant. While three occurrences have been documented, the last individual was last seen in 1967.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 58: NatureServe individual account for *Glossopetalon texense*.

3. The **many-flowered unicorn-plant (*Proboscidea spicata*)** historically occurred in Texas and Coahuila, Mexico in terraces along the Rio Grande as well as roadsides. There have been four total historical collections. Although it has been searched for, it hasn't been seen since 1967.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 59: NatureServe individual account for *Proboscidea spicata*.

4. **Watson's false-clappia (*Pseudoclappia watsonii*)** is a member of the aster family that occurs in Hudspeth and Jeff Davis counties in Texas. Its habitat is hills and arroyos in Chihuahuan Desert shrublands. There were two collections of this plant in the 1970s, but it has not been seen since.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 60: NatureServe individual account for *Pseudoclappia watsonii*.

5. ***Astragalus avonensis*** is a milkvetch which occurs in Iron County, Utah in the Escalante Desert. It is restricted to a single site and is described as “severely to rapidly declining,” with declines of 30%-over 70%. Its habitat has twice been excavated for gas pipelines. Given its restriction to one site, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians’ Petition to List 206 Species in the Mountain Prairie Region. See Attachment 61: NatureServe individual account for *Astragalus avonensis*.

6. ***Donrichardsia macroneuron*** is a moss that currently only occurs at the Seven Hundred Springs in Edwards County, Texas. It has survived at this spring because the spring has never dried up. It is threatened by drought or other factors that cause spring-drying. As of 1998, a single clone remained at this site, and NatureServe reported that the prognosis for its survival was “not good.” The IUCN classifies this species as vulnerable, reports that only one locality remains, and list threats of development, dam construction, and water pollution. This species comprises a monotypic genus: if it goes extinct, an entire genus would vanish. Given its restriction to one site, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians’ Petition to List 475 Species in the Southwestern Region. See Attachment 62: NatureServe individual account for *Donrichardsia macroneuron* and Attachment 63: IUCN individual account for *D. macroneuron*.

7. **Mccart’s whitlow-wort (*Paronychia maccartii*)** is a plant in the pink family that is found in Webb County, Texas on hard-packed sand on grasslands or shrublands on the Rio Grande plains. Only one occurrence was reported, but it hasn’t been seen since 1962. Given its restriction to one site, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians’ Petition to List 475 Species in the Southwestern Region. See Attachment 64: NatureServe individual account for *Paronychia maccartii*.

8. The **Frisco buckwheat (*Eriogonum soledium*)** is known from private land in the vicinity of the town of Frisco, in the San Francisco Mountains in Beaver County, Utah. As of 1997, only a single population existed, which is threatened by mining. Given its restriction to one site, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians’ Petition to List 206 Species in the Mountain Prairie Region. See Attachment 65: NatureServe individual account for *Eriogonum soledium*.

9. The **river rockdaisy** (*Perityle warnockii*) is a daisy that, as of 2002, occurred at only one site, located one mile east of the Pecos River in Val Verde County, Texas. It is threatened by grazing. Given its restriction to one site, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 66: NatureServe individual account for *Perityle warnockii*.

10. **Boynton's sand post oak** (*Quercus boyntonii*) historically occurred in Alabama and Texas. It has been extirpated from Texas, but was rediscovered at one site in St. Clair County, Alabama. Its loblolly pine-oak forest habitat is threatened by clearcutting. This species is classified as Endangered by the IUCN, which also states that while the species appears to be extinct in areas where it was known, it may exist in Mississippi and Louisiana. Given its current known restriction to one site, it is vulnerable to total extirpation.

This species was included in WildEarth Guardians' Petition to List 475 Species in the Southwestern Region. See Attachment 67: NatureServe individual account for *Quercus boyntonii* and Attachment 68: IUCN individual account for *Q. boyntonii*.

C. Listing factors which apply to the petitioned species

The ESA requires that at least one of the following listing factors apply for a species to warrant listing:

- A. The present or threatened destruction, modification, or curtailment of habitat or range;
- B. Overutilization for commercial, recreational, scientific, or educational purposes;
- C. Disease or predation;
- D. The inadequacy of existing regulatory mechanisms; and
- E. Other natural or manmade factors affecting its continued existence.

16 U.S.C. § 1533(a)(1). At least one listing factor applies to each of the petitioned species (Table 2).

Listing factors D and E warrant elaboration. First, we have included information from NatureServe and other sources to assess the adequacy of regulatory mechanisms (Factor D). We also determined whether the animal species were included in state comprehensive wildlife conservation strategies and plans. Our contention is not that state plans confer sufficient species-level measures to provide adequate regulatory protection to the emergency petitioned species. Rather, we believe the Service should consider species that are altogether excluded from state plans as particularly at risk under listing Factor D in Table 2.

Second, the species in this petition occur in only one or no known locations and are therefore threatened by single events that could cause species extinction. We have included this issue under Factor E in Table 2 (along with threats such as fire and drought).

Such a low number of extant populations for each species exposes them to the risk of total extinction if remaining populations are extirpated. Extirpation can result from a variety of threats, including systematic pressures (e.g., hunting, water diversion, habitat destruction, long-term climate change, exotic species) or random/stochastic events (e.g., environmental uncertainties, catastrophes such as fire and drought, fluctuations in birth and death rates, and processes such as genetic drift and inbreeding).<sup>12</sup>

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<sup>12</sup>Stein et al. 2000 at p. 95.

**Table 2. ESA Listing Factor Analysis for 32 Emergency Petitioned Species.**

<b>Species Name</b>	<b>Listing Factor A: Habitat Loss and Degradation</b>	<b>Listing Factor B: Over-utilization</b>	<b>Listing Factor C: Disease or Predation</b>	<b>Listing Factor D: Inadequate Regulatory Mechanisms</b>	<b>Listing Factor E: Other Natural or Man-made Factors</b>
<b>Invertebrates</b>					
<i>Isoperla jewetti</i> (a stonefly)	YES -habitat conversion to agriculture				YES -no populations known: risk of total extirpation
<i>Fallceon eatoni</i> (a mayfly)				YES -not included in any state wildlife conservation plans	YES -only one specimen known: risk of total extirpation
<i>Hygrotus diversipes</i> : “narrow-foot hygrotus diving beetle”				YES -not included in any state wildlife conservation plans	YES -occurs at only one site: risk of total extirpation
<i>Microcyloepus browni</i> : “Brown’s microcyloepus riffle beetle”	YES -upstream human development			YES -lack of protection from upstream development -not included in any state wildlife conservation plans	YES -occurs at only one site, on 35 sq. meters: risk of total extirpation
<i>Optioservus phaeus</i> : “Scott optioservus riffle beetle”	YES -aquifer dewatering -aquifer contamination -habitat destruction			YES -NatureServe recommends proceeding with federal listing -state recovery plan does not address all threats	YES -occurs at only one site, on less than 1 acre: risk of total extirpation

<p><i>Agapema galbina</i>:  <b>“Tamaulipan agapema”</b></p>	<p>YES                  -crop agriculture (primarily cotton)                  -development                  -human disturbance</p>			<p>YES                  -lack of protection from threats</p>	<p>YES                  -no known populations: risk of total extirpation</p>
<p><i>Litodonta sp. 1 nr. alpina</i>  <b>(notodontid moth)</b></p>				<p>YES                  -lack of protection from intense fire                  -not included in any state wildlife conservation plans</p>	<p>YES                  -only a single occurrence known: risk of total extirpation                  -fire</p>
<p><i>Sonorella todseni</i>: <b>“Dona Ana talussnail”</b></p>	<p>YES                  -potential mining threat                  -vehicle traffic                  -substrate-disturbing activities                  -deforestation</p>				<p>YES                  -only two small sites known on a total of 1 acre: risk of total extirpation                  -climate warming                  -fire</p>
<p><i>Discus brunsoni</i>: <b>“lake disc”</b></p>	<p>YES                  -talus destabilization                  -weed control</p>	<p>YES                  -over-collecting</p>		<p>YES                  -not included in any state wildlife conservation plans</p>	<p>YES                  -occurs at a single site: risk of total extirpation                  -fire</p>
<p><i>Oreohelix amariradix</i>:  <b>“Bitterroot mountainsnail”</b></p>	<p>YES                  -highway improvement                  -herbicides                  -logging                  -grazing</p>			<p>YES                  -NatureServe recommends that all occurrences be protected                  -Hendricks 2003 report describes lack of special protections                  -not included in any state</p>	<p>YES                  -occurs at only 1-2 sites: risk of total extirpation</p>

				wildlife conservation plans	
<i>Oreohelix pilsbryi</i> : “Mineral Creek mountainsnail”	YES -mining -rockslides -logging -grazing			YES -lack of protection from climate warming -NatureServe recommends full habitat protection	YES -occurs at a single site on less than 1 acre: risk of total extirpation -climate warming -fire
<i>Oreohelix sp. 4</i> : “Drummond mountainsnail”	YES -road building and maintenance -roadside spraying -grazing -logging			YES -not included in any state wildlife conservation plans	YES -occurs at a single site measuring less than 6 feet long: risk of total extirpation
<i>Oreohelix sp. 6</i> : “Kintla Lake mountainsnail”	YES -grazing -logging -mining -roads			YES -not included in any state wildlife conservation plans	YES -occurs at only 1-2 sites: risk of total extirpation
<i>Oreohelix parawanensis</i> : “Brian Head mountainsnail”	YES -ski resort -grazing -hiking			YES -need for enclosures to protect habitat	YES -occurs at a single site, occupying only 2.3 ha: risk of total extirpation
<i>Vertigo binneyana</i> : “cylindrical vertigo”				YES -not included in any state wildlife conservation plans	YES -no known populations: risk of total extirpation -drought may be a threat
<i>Sonorella eremita</i> : “San Xavier talussnail”	YES -construction -mining -dirt-bike use	YES -collecting		YES -inappropriate substitution of conservation plan for federal listing	YES -occurs at a single rockslide: risk of total extirpation -dessication



<i>Potamilus metnecktayi</i> : “Salina mucket”	YES -habitat degradation				YES -no living specimens seen in 20 years: risk of total extirpation -drought
<i>Procambarus nueces</i> : “Nueces crayfish”				YES -NatureServe recommends protection of the single existing population	YES -occurs at only one site: risk of total extirpation
<i>Pyrgulopsis bedfordensis</i> (a freshwater snail)				YES -NatureServe recommends protecting extant population -not included in any state wildlife conservation plans	YES -occurs at only one site: risk of total extirpation
<i>Pyrgulopsis davisii</i> : “Limpia Creek springsnail”	YES -livestock			YES -sole occurrence is not protected	YES -occurs at only one site: risk of total extirpation
<i>Pyrgulopsis metcalfi</i> : “Naegele springsnail”	YES -livestock			YES -sole occurrence is not protected	YES -occurs at only one site: risk of total extirpation
<i>Pyrgulopsis pecosensis</i> : “Pecos springsnail”	YES -livestock -groundwater depletion and contamination -dewatering			YES -lack of protection from groundwater depletion and contamination	YES -occurs at only one site: risk of total extirpation -drought
<b>Plants</b>					
<i>Castilleja ornata</i> : “glowing Indian-paintbrush”	YES -livestock grazing -conversion to cropland				YES -occurs at a single site: risk of total extirpation

<i>Glossopetalon texense</i> : “Texas grease bush”	YES -ungulate browsing				YES -last seen in 1967: risk of total extirpation
<i>Proboscidea spicata</i> : “many-flowered unicorn-plant”					YES -last seen in 1967: risk of total extirpation
<i>Pseudoclappia watsonii</i> : “Watson’s false-clappia”					YES -last seen in the 1970s: risk of total extirpation
<i>Astragalus avonensis</i> (a milkvetch)	YES -energy development			YES -habitat not protected from energy development	YES -occurs at a single site: risk of total extirpation
<i>Donrichardia macroneuron</i> (a moss)	YES -spring-drying -development -dam construction -water pollution				YES -occurs at a single site: risk of total extirpation -drought
<i>Paronychia maccartii</i> : “Mccart’s whitlow-wort”					YES -occurs at a single site and hasn’t been seen since 1962: risk of total extirpation
<i>Eriogonum soledium</i> : “Frisco buckwheat”	YES -mining				YES -occurs at a single site: risk of total extirpation
<i>Perityle warnockii</i> : “river rockdaisy”	YES -grazing				YES -occurs at a single site: risk of total extirpation
<i>Quercus boyntonii</i> : “Boynton’s sand post oak”	YES -clearcutting				YES -occurs at a single site: risk of total extirpation

**IV. Conclusion: the 32 petitioned species must be immediately listed under the ESA on an emergency basis**

ESA listing for the petitioned species must be prompt. The ESA requires that the Service take emergency listing action when there is a significant risk to the well-being of a species. The danger is particularly acute given that all of the emergency-petitioned species have two or fewer populations, and most have only one population remaining. The risk to these 32 species lies in delayed regulatory protections. Alternatively, prompt regulatory protection could address threats such as habitat destruction.

WildEarth Guardians hereby requests immediate emergency listing of these 32 species under the ESA. Emergency listing is necessary for their interim protection. While these species are emergency listed, the Service should issue final listing rules for all of them.

List of Attachments (provided on CD)

Attachment 1: Forest Guardians. 2007a. Petition to List All Critically Imperiled or Imperiled Species in the Southwest United States as Threatened or Endangered Under the Endangered Species Act. Submitted to the U.S. Fish and Wildlife Service on June 18, 2007.

Attachment 2: Forest Guardians. 2007b. Petition to List 206 Critically Imperiled or Imperiled Species in the Mountain-Prairie Region of the United States as Threatened or Endangered Under the Endangered Species Act. Submitted to the U.S. Fish and Wildlife Service on July 24, 2007.

Attachment 3: NatureServe individual account for *Isoperla jewetti*.

Attachment 4: New Mexico Comprehensive Wildlife Conservation Strategy.

Attachment 5: Arizona Comprehensive Wildlife Conservation Strategy.

Attachment 6: NatureServe individual account for *Fallceon eatoni*.

Attachment 7: McCafferty, W.P. 2006. Rediscovery of *Fallceon eatoni* (Kimmins) (Ephemeroptera: Baetidae). Proc. Entomol. Soc. Wash. 108(1): 248.

Attachment 8: NatureServe individual account for *Hygrotus diversipes*.

Attachment 9: NatureServe individual account for *Microcyллоepus browni*.

Attachment 10: Montana Field Guide entry for *Microcyллоepus browni*.

Attachment 11: Montana Comprehensive Wildlife Conservation Strategy.

Attachment 12: NatureServe individual account for *Optioservus phaeus*.

Attachment 13: Kansas Comprehensive Wildlife Conservation Plan.

Attachment 14: State Recovery Plan for *Optioservus phaeus*.

Attachment 15: NatureServe individual account for *Agapema galbina*.

Attachment 16: Texas Comprehensive Wildlife Conservation Strategy.

Attachment 17a: NatureServe individual account for *Litodonta sp. 1 nr. alpina*.

Attachment 17b: Arizona Game and Fish Department account for *Litodonta sp. 1 nr. alpina*.

- Attachment 18: NatureServe individual account for *Sonorella todseni*.
- Attachment 19: IUCN individual account for *Sonorella todseni*.
- Attachment 20: BISON-M account for *Sonorella todseni*.
- Attachment 21: New Mexico Biennial Review 2006.
- Attachment 22: New Mexico Drought Task Force Report 2005.
- Attachment 23: U.S. Department of Defense Species at Risk Report for New Mexico and Arizona 2006.
- Attachment 24: NatureServe individual account for *Discus brunsoni*.
- Attachment 25: Hendricks, Paul. Undated. Rediscovery of *Discus brunsoni* (Berry, 1955) and *Oreohelix alpina* (Elrod, 1901) in the Mission Mountains, Montana, With Comments on *Oreohelix elrodi* (Pilsbry, 1900). Montana Natural Heritage Program report.
- Attachment 26: Hendricks, Paul. 2003. Terrestrial Mollusks of Special Concern in Montana. Prepared for U.S. Forest Service, dated June 2003.
- Attachment 27: Hendricks, Paul, and Bryce A. Maxwell. 2005. USFS Northern Region 2005 Land Mollusk Inventory: a Progress Report. Montana Natural Heritage program, dated December 2005.
- Attachment 28: NatureServe individual account for *Oreohelix amariradix*.
- Attachment 29: Montana Field Guide entry for *Oreohelix amariradix*.
- Attachment 30: NatureServe individual account for *Oreohelix pilsbryi*.
- Attachment 31: NatureServe individual account for *Oreohelix sp. 4*.
- Attachment 32: NatureServe individual account for *Oreohelix sp. 6*.
- Attachment 33: NatureServe individual account for *Oreohelix parawanensis*.
- Attachment 34: Utah Comprehensive Wildlife Conservation Strategy.
- Attachment 35: Utah Division of Wildlife Resources entry for *Oreohelix parawanensis*.
- Attachment 36: NatureServe individual account for *Vertigo binneyana*.
- Attachment 37: NatureServe individual account for *Sonorella eremita*.

- Attachment 38: Arizona Game and Fish entry for *Sonorella eremita*.
- Attachment 39: 1998 FWS withdrawal of listing proposal for San Xavier talussnail.
- Attachment 40: 1998 conservation agreement for San Xavier talussnail (including renewal Appendix).
- Attachment 41: NatureServe individual account for *Potamilus metnecktayi*.
- Attachment 42: Texas Parks and Wildlife Department Rio Grande Presentation 2003.
- Attachment 43: Howells, Robert G. 2004. Last stand for mussels of the Rio Bravo? Texas Parks and Wildlife's *Eye on Nature*.
- Attachment 44: IUCN individual account for *Disconaias salinasensis* (= *Potamilus metnecktayi*).
- Attachment 45: NatureServe individual account for *Procambarus nueces*.
- Attachment 46: IUCN individual account for *Procambarus nueces*.
- Attachment 47: Texas Parks and Wildlife webpage for *Procambarus nueces*.
- Attachment 48: American Fisheries Society 2007 at pp. 373-374, 377, 382.
- Attachment 49: NatureServe individual account for *Pyrgulopsis bedfordensis*.
- Attachment 50: Montana Field Guide for *Pyrgulopsis bedfordensis*.
- Attachment 51: NatureServe individual account for *Pyrgulopsis davisi*.
- Attachment 52: NatureServe individual account for *Pyrgulopsis metcalfi*.
- Attachment 53: IUCN individual account for *Pyrgulopsis metcalfi*.
- Attachment 54: BISON-M individual account for *Pyrgulopsis pecosensis*.
- Attachment 55: NatureServe individual account for *Pyrgulopsis pecosensis*.
- Attachment 56: NatureServe individual account for *Castilleja ornata*.
- Attachment 57: New Mexico Rare Plant account for *Castilleja ornata*.
- Attachment 58: NatureServe individual account for *Glossopetalon texense*.
- Attachment 59: NatureServe individual account for *Proboscidea spicata*.

Attachment 60: NatureServe individual account for *Pseudoclappia watsonii*.

Attachment 61: NatureServe individual account for *Astragalus avonensis*.

Attachment 62: NatureServe individual account for *Donrichardsia macroneuron*.

Attachment 63: IUCN individual account for *Donrichardsia macroneuron*.

Attachment 64: NatureServe individual account for *Paronychia maccartii*.

Attachment 65: NatureServe individual account for *Eriogonum soledium*.

Attachment 66: NatureServe individual account for *Perityle warnockii*.

Attachment 67: NatureServe individual account for *Quercus boyntonii*.

Attachment 68: IUCN individual account for *Quercus boyntonii*.